

वस्त्रादि — हेयर बेल्टिंग धागे — विशिष्टि
(दूसरा पुनरीक्षण)

**Textiles — Hair Belting Yarn —
Specification**
(*Second Revision*)

ICS 59.080.20

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FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Wool, Wool Products and Textile Floor Coverings Sectional Committee had been approved by the Textiles Division Council.

The standard was last revised in 1970. The present revision has been made in the light of experience gained since last revision and to incorporate the following major changes:

- a) Title of the standard has been modified;
- b) Terminology clause has been added;
- c) Yarn defects have been specified;
- d) Packing and sampling clauses have been modified;
- e) BIS certification marking clause has been modified;
- f) Sampling clause has been added; and
- g) References to Indian Standard given in Annex A has been updated.

The composition of the committee responsible for the formulation of this standard is listed in Annex B.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Indian Standard***TEXTILES — HAIR BELTING YARN — SPECIFICATION***(Second Revision)***1 SCOPE**

This standard prescribes manufacturing details and other requirements of two varieties of hair belting yarn.

2 REFERENCES

The standards listed in Annex A contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards listed in Annex A.

3 TYPES

Based on fiber composition hair belting yarn shall be of following types:

- a) *Variety 1* — Hair belting yarn spun from 100 percent wool.
- b) *Variety 2* — Hair belting yarn spun from a blend of minimum 75 percent wool with a maximum of 25 percent stretched nylon fibres.

4 TERMINOLOGY

For the purpose of this standard, the following definitions shall apply.

4.1 Package — A general term for a bobbin, bundle, cheese, cone, cop or pirn of yarn indicating that the yarn is in a form convenient for transport and further processing.

4.2 Universal Count, in tex — Universal count is a number indicating the weight per unit length, the basic unit of which is the tex. When universal count of yarn is expressed in tex, the count value indicates the weight in grams of one kilometer of yarn.

NOTE — The weight per unit length of fibres as well as textile products like ropes, rovings, etc, may also be expressed in universal count system and in such cases, the following submultiple and multiple units may be used to avoid small fractions and large numbers respectively:

1 m tex (milli-tex) = 0.001 tex

1 k tex (kilo-tex) = 1 000 tex

5 MANUFACTURE

5.1 Variety 1 shall be evenly spun from 100 percent wool and Variety 2 shall be spun from a blend of minimum of 75 percent wool with a maximum of 25 percent stretched nylon fibres.

5.2 The recommended fineness of wool and stretched nylon fibres to be used for the manufacture of hair belting yarn, is given below.

5.2.1 *Wool* — Average fibre fineness shall be between 35 microns to 45 microns.

5.2.2 *Nylon* — Fineness between 4 to 5 denier.

6 REQUIREMENTS

6.1 The hair belting yarn shall meet the performance requirement as given in Table 1.

6.2 Freedom from Yarn Defects

The yarn packages shall be free from the following defects.

6.2.1 *Damaged/Bumped* — Only touching impression of up to 5 mm depth may be allowed.

6.2.2 *Dirt/Grease* — No soiling or grease spots shall be allowed. It is acceptable if the spots can be cleaned off. Defect with slight grey/yellow stains shall not be more than 0.5 per kg and more than 5 mm in length.

6.2.3 *Improper Ply* — Count the number of ends if the yarn is two ply or more. Also check the number of tails. No improper ply shall be allowed.

6.2.4 *Improper Wind* — No patterns or bands, no high or falling off edges and no excessive hard/soft packages shall be allowed.

6.2.5 *Inadequate Package Clearance* — It shall be 9 mm, minimum from yarn roll to tail end of cone or cheese and 25 mm Max (nominal should be 15 mm).

6.2.6 *Indistinct Tail* — Tail end coils to be distinct and minimum tail length shall be one wrap around the tube. Missing, bunch and multiple tails shall not be off graded. Permissible limit for packages without tail shall be less than 6 percent.

Table 1 Requirements of Hair Belting Yarn
(Clause 6.1)

SI No.	Characteristic	Requirement		Tolerance (percent)	Method of Test, Ref to
		Variety 1	Variety 2		
(1)	(2)	(3)	(4)	(5)	(6)
i)	Universal count(worsted count of yarn)	180 tex × 4 (5s/4)	180 tex × 4 (5s/4)	± 5	IS 681
ii)	Direction of twist:				
	a) Single	Z	Z	-	Visual
	b) Plied	S	S	-	Visual
iii)	Twist per metre:				
	a) Single	360	300	± 5	IS 832 (Part 1)
	b) Plied	160	200	± 5	
iv)	Single thread breaking load on 50 cm test length, <i>Min, N</i>	60	75	-	IS 1670
v)	Elongation at break:				IS 1670
	<i>Min</i>	20 percent	25 percent	-	
	<i>Max</i>	45 percent	45 percent	-	
vi)	Balance of twist	Yarn shall not have undue tendency to re-twist; however, a maximum of 8 turns as re-twist or double on account of the kink shall be permitted when tested by the method given in col (6)			Approximately 1.5 m length of yarn taken out from the conditioned package is held horizontally in the hands and the two ends of yarn are slowly brought together

6.2.7 Latching — Plies that separate when winding off shall not be allowed.

6.2.8 Oversize and Small Packages — Check suspect packages with appropriate gauge, scale, diameter tape or balance. All equal length bobbins of respective products should be graded and packed separately.

Unequal length bobbins are to be graded based on their weights and packed in respective grades. Bobbins with different sizes in terms of length and weight, packed in same package shall not be allowed.

6.2.9 Package Defects — Crushed, nicked, or cut cones or cheese, especially on the nose end shall not be allowed.

7 PACKAGE — The yarn shall be made into hanks, cones or cheeses.

8 MARKING

8.1 Each yarn package shall be marked with indelible

ink, the following information:

- Name of the material;
- Variety Number;
- Manufacturer's name, initials or trade-mark;
- Weight of the package; and
- Any other information/instruction provided by the manufacture/required under law.

8.1.1 BIS Certification Marking

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations framed thereunder, and the product(s) may be marked with the Standard Mark.

9 PACKING

9.1 The yarn shall be packed in conformity with the procedure laid down in IS 32 or IS 741, as the case may be.

9.2 The case shall be marked with the following:

- a) Name of the material;
- b) Gross weight;
- c) Net weight;
- d) Manufacturer's name, address and initials or trade-mark;
- e) Lot/batch/merge number;
- f) Month and year of manufacture; and
- g) Any other information/instruction provided by the manufacture/required under law.

9.2.1 The yarn may also be marked with the Standard Mark.

10 SAMPLING AND CRITERIA FOR CONFORMITY

10.1 Lot

The number of packages in all cartons/pellets of hair belting yarn of the same description and designation delivered to a buyer against one dispatch note shall constitute a lot.

10.2 The number of packages to be selected at random from a lot shall be according to col (2) of Table 2. The packages shall be selected at random

from different cartons/pallets to constitute the sample size.

To ensure the randomness of selection, IS 4905 may be followed.

10.3 Number of Tests and Criteria for Conformity

10.3.1 The number of packages to be selected for manufacturing defects shall be in accordance with col (3) of Table 2. For all other properties, the number of packages selected shall be in accordance with col (5) of Table 2. These packages may be selected from the packages selected for non-destructive tests.

10.3.2 All the packages selected from the lot shall be visually examined for yarn defects as specified in 6.2. Four such defects will be considered as one major defect. A package shall be considered defective if it contains any major defect. All the packages selected for destructive tests shall be tested for the requirements as specified Table 1.

10.3.3 The lot shall be declared conforming to the requirements of this standard if the total number of defective packages does not exceed the value given in col (4) of Table 2 for yarn defects or col (6) of Table 2 for other requirements.

Table 2 Number of Packages of yarns to be selected
(Clause 10.2, 10.3.1 and 10.3.3)

Sl No.	Lot Size	Non-Destructive Testing		Destructive Testing	
		Number of packages to be selected	Acceptance number	Number of packages to be selected	Acceptance Number
(1)	(2)	(3)	(4)	(5)	(6)
i)	Up to 280	13	1	8	0
ii)	281 - 500	20	2	8	0
iii)	501 - 1 200	32	3	13	0
iv)	1 201 - 3 200	50	5	13	0
v)	3 201 - 10 000	80	7	20	1

ANNEX A
(Clause 2)

LIST OF REFERRED STANDARDS

<i>IS No./Other publications</i>	<i>Title</i>	<i>IS No./Other publications</i>	<i>Title</i>
IS 32 : 1971	Code for seaworthy packaging of woollen and worsted yarn and cloth (<i>second revision</i>)	IS 1670 : 1991	Textiles — Yarn — Determination of breaking load and elongation at break of single strand (<i>second revision</i>)
IS 681 : 2015	Textiles — Methods for determination of universal count of woollen and worsted yarn (<i>first revision</i>)	IS 832 (Part 1) : 2021/ISO 2061 : 2015	Textiles — Determination of twist in yarns: Part 1 Direct counting method
IS 741 : 1971	Code for inland packaging of woollen and worsted yarn and cloth (<i>first revision</i>)		

ANNEX B
(Foreword)

COMMITTEE COMPOSITION

Wool, Wool Products and Textile Floor Coverings Sectional Committee, TXD 04

<i>Organization</i>	<i>Representative(s)</i>
ICAR - Central Sheep & Wool Research Institute, Avikanagar	DR D. B. SHAKYAWAR (Chairperson)
Agnext Technologies Pvt Ltd, Mohali	SHRI TARANJEET SINGH BHAMARA SHRI SALIL LAKHANPAL (<i>Alternate</i>)
Ahujasons Shawlwale Pvt Ltd, New Delhi	SHRI PUNEET AHUJA
All India Carpet Manufacturers' Association, Bhadohi	SHRI RAVI PATODIA SHRI SURENDA K. BARANWAL (<i>Alternate</i>)
Art Weavers Pvt Ltd, Varanasi	SHRI HUSAIN JAFAR HUSAINI
Bikaner Woolen Mills Pvt Ltd, Bikaner	SHRI SHREYANSH BOTHRA
Carpet Export Promotion Council, New Delhi	SHRI SANJAY KUMAR SHRI SUBODH KUMAR GUPTA (<i>Alternate</i>)
Central Silk Board, Bangalore	DR S. V. NAIK DR PRAKASH N. BHATT (<i>Alternate</i>)
Central Wool Development Board, Jodhpur	SHRI ANURAG PUROHIT SHRI RAMESH KUMAR BUNDELA (<i>Alternate</i>)
Crafts Development Institute, Srinagar	DIRECTOR DR HINA QUAZI (<i>Alternate</i>)
Directorate of Animal Husbandry , Jaipur	DR J. S. SEHGAL
Directorate General of Quality Assurance Ministry of Defence, Kanpur	SHRI A. CHOWDHURY SHRI D. K. PUJARI (<i>Alternate</i>)
Export Promotion Council for Handicraft, New Delhi	SHRI RAJESH RAWAT
ICAR - Central Sheep & Wool Research Institute, Avikanagar	DR AJAY KUMAR DR VINOD KADAM (<i>Alternate</i>)
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Indian Institute of Carpet Technology, Srinagar	DR ZUBAIR AHMAD
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Karmabhoomi, Ladakh	SHRI ATUL KUMAR MS K. DOLMA (<i>Alternate</i>)
Khadi & Village Industries Commission, Mumbai	SHRI S. K. SINHA SHRI S. P. GUPTA (<i>Alternate</i>)
Looms of Ladakh, Leh	MS REGZEN YANGDOL
Obeetee Pvt Ltd, Bhadohi	SHRI MAKARAND MEHNDALE SHRI MAYANK JAISWAL (<i>Alternate</i>)

<i>Organization</i>	<i>Representative(s)</i>
Office of the Development Commissioner for (Handicraft), New Delhi	MS POOJA VENUGOPAL SHRI SANDEEP KUMAR PATEL (<i>Alternate</i>)
Office of the Textile Commissioner, Mumbai	SHRI SOURABH KULKARNI SHRI PRANAV PARASHAR (<i>Alternate</i>)
Raymonds Limited, Thane	DR G. S. SINGH SHRI RAJIV HICKAD (<i>Alternate</i>)
Sher-e-Kashmir University of Agricultural Sciences and Technology, Srinagar	PROF SARFARAZ AHMAD WANI DR ASIF HASSAN SOFI (<i>Alternate</i>)
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Textiles Committee, Mumbai	SHRI J. D. BARMAN SHRI GANESH P. BANGAR (<i>Alternate</i>)
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Member Secretary
SHRI HIMANSHU SHUKLA
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